

Tenth Annual Finance Conference

**Defense MilPay Office (DMO)
System & Technical Architecture Design**

**Renaissance Cleveland
Hotel**

**Tower City Center
Cleveland, Ohio**

March 28-30, 2000 Presenter: Fred Green

Systems Architecture



Systems Architecture Background

- **Current DJMS Data Stores**
 - **Virtual Storage Access Method (VSAM)**
 - Tables used to map data to MMPA
 - **RC has no integrated Database**
- **Current Member Record Inquiry**
 - **CICS via DISA DISN Network using SNA or TN3270 Over TCP/IP**
 - Design based on database constraints

Systems Architecture Background

- **Current Pay Transaction Input**
 - JDCIII & II, UMIDS, and RCIS
 - DOS Based or CICS Based
 - Limited Edits and Validations
 - No inter-operability
 - Non-Standard Installations
- **Other Inquiry/Input Systems**
 - Mixed bag of needed functionality and good ideas (JTTLA, TIPS, etc.)

DMO Functionality Vision

- **Module Approach**
 - Input (UMIDS, JDCIII, RCIS)
 - Inquiry (TN3270 Emulation)
 - Reports (EARS, Off-Line Reporting)
- **Common Development Methods & Tools**
- **Ability to Add New Modules**
 - BMT Module using TIPS as baseline
Planned
- **Interface with DFAS/DoD Systems**

DMO Functionality

Features

- **Common look & feel**
- **Interoperability**
- **Screen Pre-Fill**
- **Relational Database**
- **Mass and Multiple**
- **AC/RC Support**
- **Windows 32 Bit**
- **Joint Ops Capable**
- **Flexible Comms**
- **Application Help**
 - On-line User Manual
- **Context Help**
 - FID/TIN Level Info
- **Drop-Down Boxes**
- **Plain-English Text**
- **On-Line Validations and Edits**

DMO Functionality

Benefits

- Ease of Training
- Reduced Errors
- Network Support
- Highly Mobile
- Joint Support
- Mobilization Support
- Modern Look
- Ease of Update
- Increased Customer Service
- A step to Web Support
- Allows other options for development
- Flexible hardware environment

DMO Inquiry Screen

DJMS Standard Inquiry System (DSIS)

File Edit View Tools Window Help

(New Inquiries) Enter SSAN: 001486399 Navy (Active/Midshipmen) Pay Record Ok

001-48-6399, Cleveland Richard W., Major (O-4), as of Jul 22, 1999

Leave Balance Current Month= 58.5 Paying Station= 3800-COMPUTR GENRTD. Servicing Station= 5588-FAO HQ USMTM

Field Title	Field Value
Leave Balance Current Month	58.5
Paying Station	3800-COMPUTR GENRTD ACTNS-DTR
Servicing Station	5588-FAO HQ USMTM
Date Of Separation (DOS)	888888
Personnel Match Code	
Pay Date	May 19, 1985
PCS Days Indicator	2-Yes
Status	A-Member on station.

001-48-6399, Cleveland Richard W., Major (O-4)

- Custom Data
- Member Information
- Entitlements
- Deductions
- Payments
- ID's
- Allotments
- Status
- Remarks

12/14/99 1:37 PM

DMO Input Screen

4601 Start - Cost of Living Allowance (COLA)

Member Information

SSN Name

Action Type

☒ Start ☐ Stop ☐ Report ☐ Change ☐ Correct ☐ Cancel


Transaction Information


Start Date


JTR Location


Number of Dependents


Input Source


 OK

 Cancel

 Inquiry

 Print

 History

 Help

DMO Reports Screen

Open Accounts

Component: **Active**

Service: **Army**

ADSN: **0001**

Database

☒ Local

☐ Corporate

Filter

☒ Include All

☐ By UIC

☐ By Division

☐ By SSAN

☒ OK ☐ Cancel

DMO Financial Management Screen

DD115 Military Payroll Money List

Military Payroll Money List

Voucher No. P3500101	Payroll No. N001
D.O. Symbol 8272	Page No. 1
Date Computed To 991210	Date of Payment 991210

T	ACT	SSN	Name	Amount Paid	Check #
F	530	625820381	ABDI OGLE KABLALAH	100.00	Cash
F	530	611308312	AGUIRRE DALE QUIMPO	150.00	Cash
F	530	505210692	ALLEN MICHAEL JOSEPH	150.00	Cash
F	530	517744002	ALLENKUNZ JUDY MAE	80.00	Cash
F	530	617225287	ALMAZAN CAYETANO JOSE I	50.00	Cash
F	530	460974912	ALONSO RICHARD DURAN	100.00	Cash
F	530	368827454	ANDERSON DALE BOYER	100.00	Cash
F	530	263498313	ANDERSON RICHARD EUGENE	500.00	Cash
F	530	569510631	AQUE FERMIN MORA JR	250.00	Cash
F	530	225396302	ARENAS EDUARDO TOLENTINO	200.00	Cash
F	530	412535945	ARNOLD MARVIN ANTONY	120.00	Cash
F	530	463025593	ARRINGTON RAY GENE	150.00	Cash
F	530	293822636	BABB JENNIFER MARIE	150.00	Cash
F	530	609382645	BABIERA LUTGARDO CUTIERR	50.00	Cash
F	530	383866443	BAKER RICHARD EARL JR	50.00	Cash
F	530	550935375	BALANAG NARCISO DOMINGO JR	100.00	Cash
F	530	384822842	BANKSTON TERRELL DEQUON	50.00	Cash
F	530	554971301	BAPTISTA MATTHEW JAMES	200.00	Cash
F	530	433333816	BARKSDALE JOHN LISLE	50.00	Cash
F	530	324684481	BATES MARKIES S	100.00	Cash
F	530	548974375	BECKER GREGORY PAUL	50.00	Cash
F	530	128724456	BERKERY THOMAS FRANCIS	50.00	Cash
F	530	362901803	BITTNER BRETT MICHAEL	75.00	Cash
F	530	065584491	BLONDET ANTHONY	50.00	Cash
F	530	357584733	BOBO SHARROD ANTWONE	200.00	Cash
F	530	569519146	BONILLA SERGIO	100.00	Cash

Search

Print Report Print Screen Close

Technical Architecture

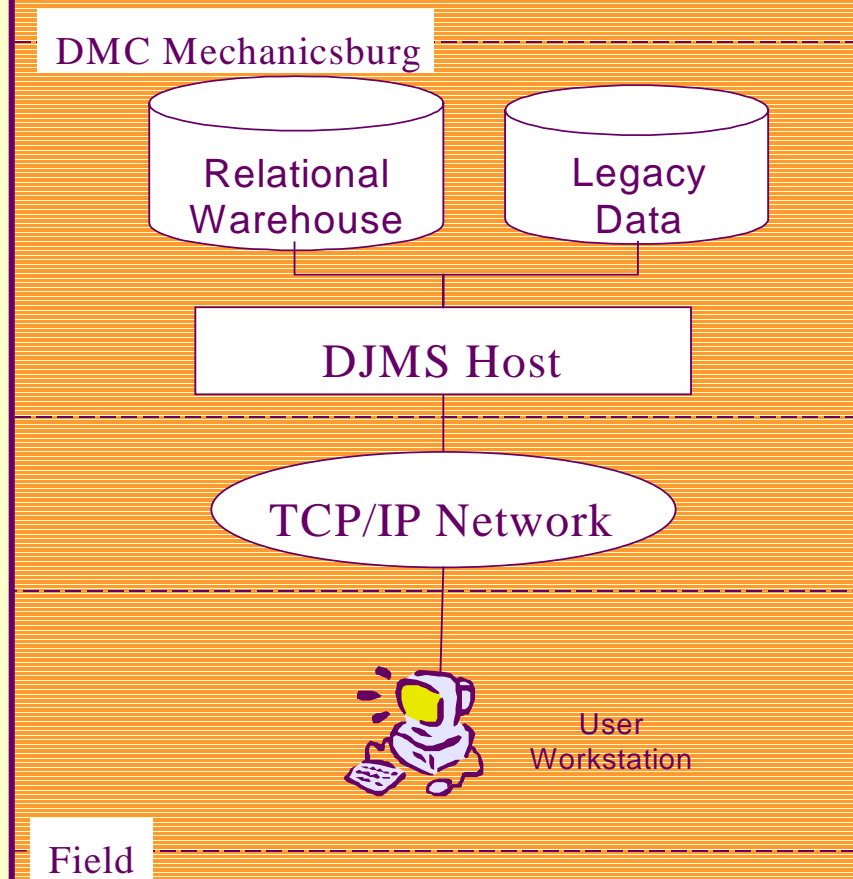


Technical Architecture Background

- **Developed a short and long term strategy for DMO support with DMC-ME**
- **Will use DB2 on the Mainframe**
 - DB2 Software is required for field systems
 - This includes Navy DMO deployment under the new proposal
 - Local Cache and Replication, if supported
 - Mainframe Pre-Fill and Inquire, if supported

Technical Architecture

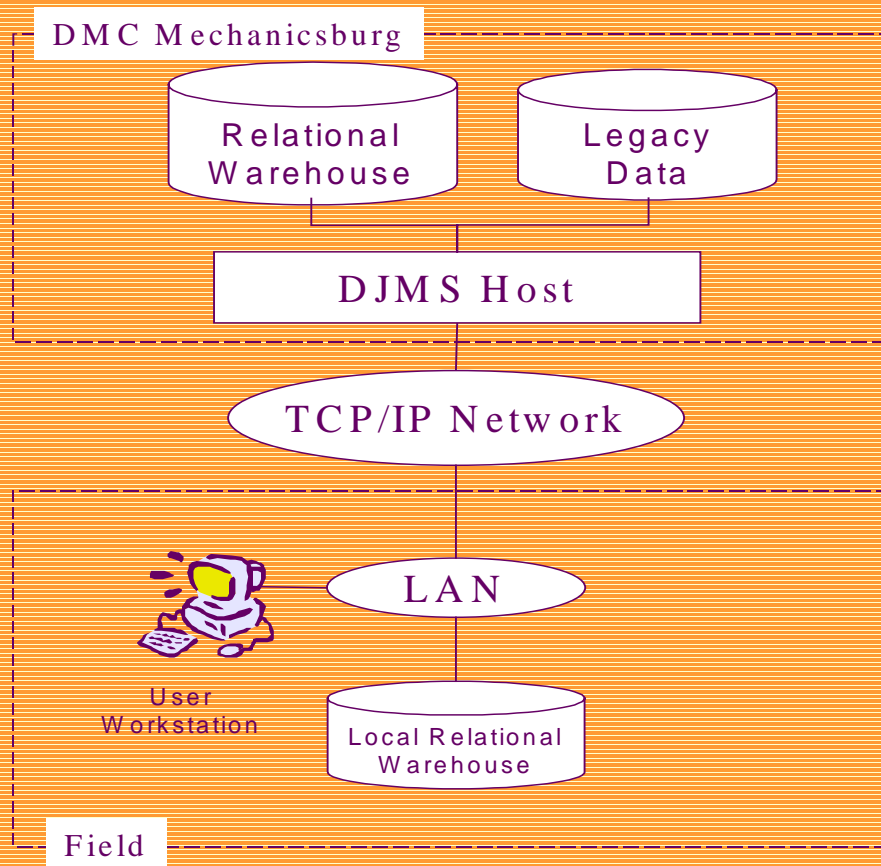
Single User/Limited Communications



- **MMPAs selected & stored locally on PC Hardrive**
- **Data moved when you have connectivity**
- **Target Units: Small users during deployment**
- **Level of interaction is dependent on the quality of communications**

Technical Architecture

Multi-User/Good Communications



- **MMPas replicated during intermittent good TCP/IP connectivity**
- **MMPAs replicated to a local server**
- **Best performance**
- **Nightly replication and update with DJMS Mainframe**
 - **Only Changes**

Technical Architecture

Security Controls

Tier

Security Access Controls

Workstation

Complimenting the standard workstation network security, the DMO application suite ships with an integrated security facility that controls access to individual applications functions at a very granular level. All users are required to have a valid workstation UserID/Password. The UserID then is the basis for all access to DMO applications

Server

Access to all DMO servers is controlled by UserID/Password. Once connected, users are restricted by server base security to specific directories and server facilities.

Database

All users who have direct access to either the Corporate or local warehouses must have a valid UserID/Password.

Host

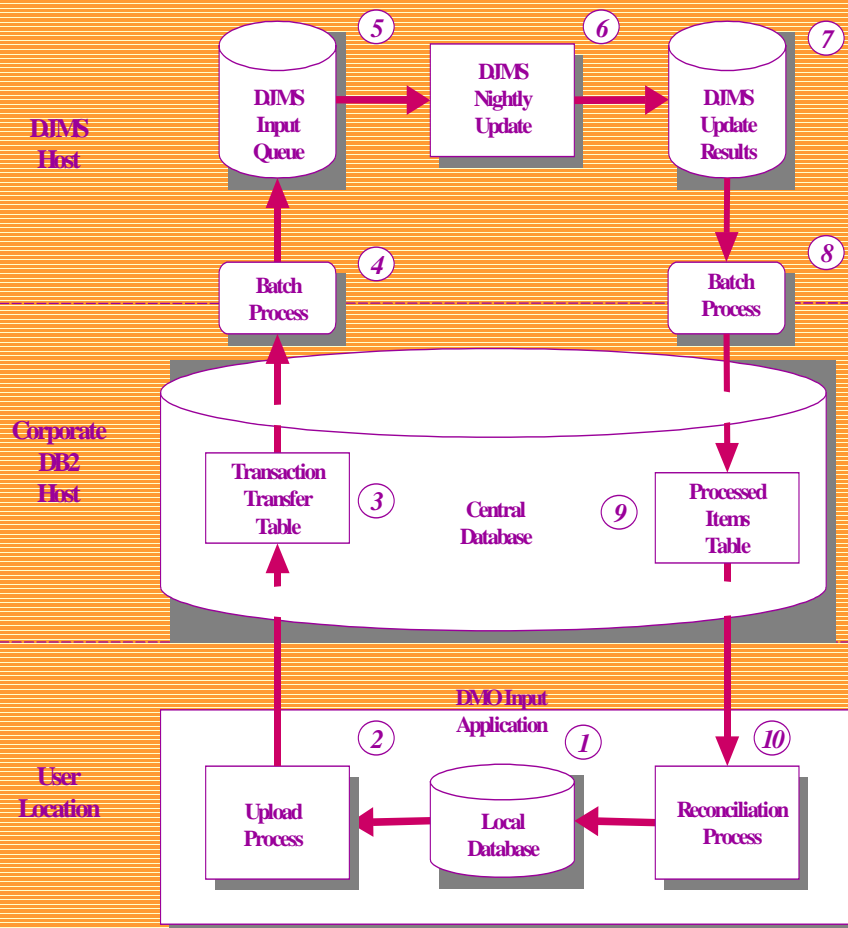
All connections to military pay hosts are controlled by UserId/Password.

Network

Field infrastructure dependent. Based on a Virtual Private Network (VPN) design, all data transmitted on the DMO network is encrypted using a DES 3 168 bit algorithm.

Technical Architecture

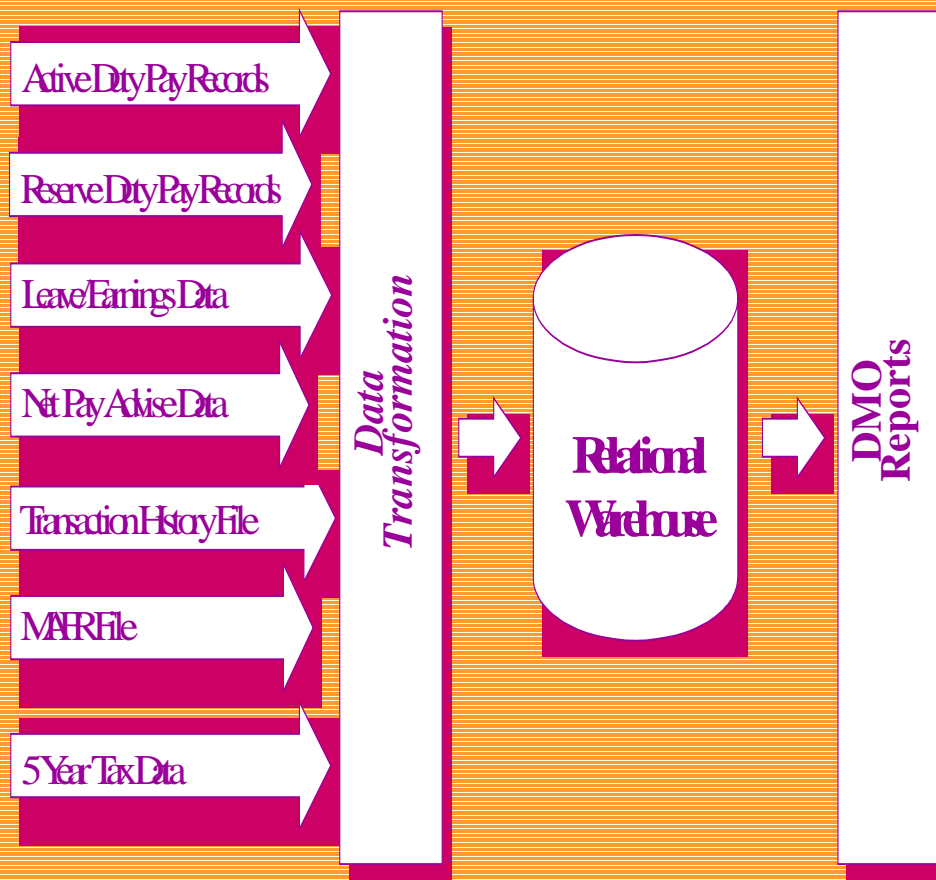
Transaction Processing



- Input stored locally and sent to the host
- DJMS update occurs as scheduled
- DJMS output file results returned
- Local resolution
- Shows Entire transaction lifecycle

Technical Architecture

DMO Reports Data Consolidation



- Data from DJMS stored in Relational Warehouse
- Reports Module uses Relational Data
- Expands Report and Query capability

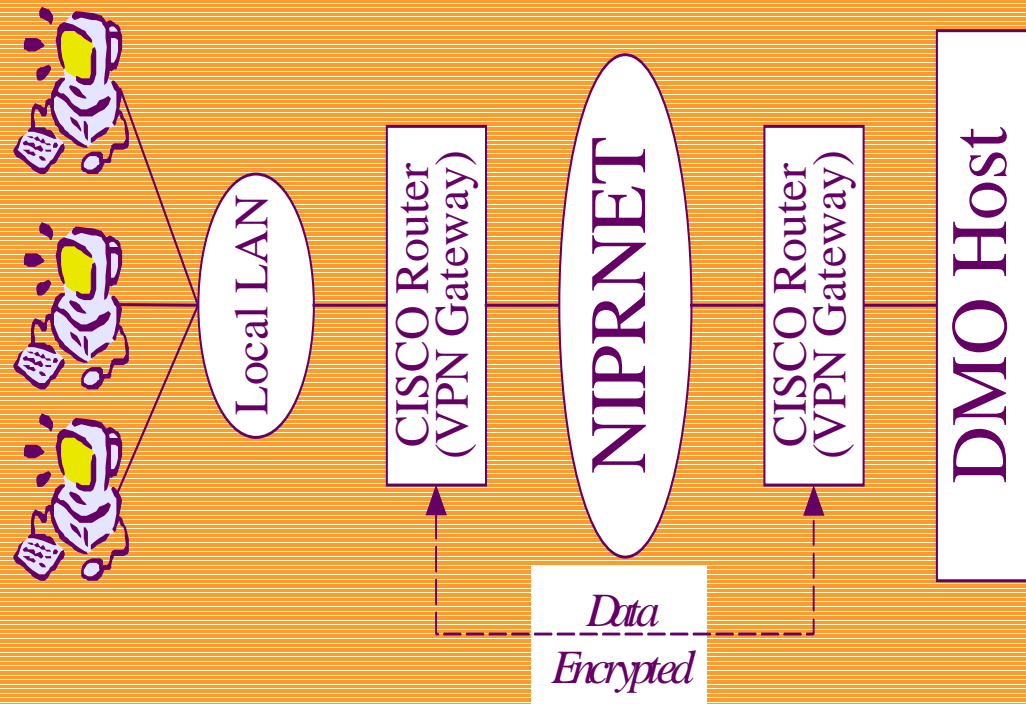
Technical Architecture

Telecommunications

- **Rely on NIPRNet and existing base comms for connectivity to DJMS Mainframe**
- **Use VPN technology for 168 Bit encryption**
 - Air Force installing enterprise solution
 - Navy coordination needed
 - Work with Army for solution
- **Use existing support organizations**
- **Evaluate emergent technology**

Technical Architecture

DMO Virtual Private Network



- VPN provides end to end encryption
- Transparent to the end user
- No local VPN administration
- Extremely reliable design
 - Used in Private Industry

System & Technical Architecture Summary



- **Transition from a DOS environment**
- **Common Modules**
- **Flexible Data Configurations**
- **Enhanced Security**
- **Flexible Communications**

Defense Milpay Office (DMO)



Implementation Plan

DMO Army & Air Force Initial Test Site Deployment

- **Sites selected by service reps, Spring 1999**
- **Software Deployment Progression**
 - **Prototype - SAT - BETA - Operation**
- **Initial software distribution: May 99**
- **SAT Commenced Feb 22, 2000**
- **Army & Air Force SAT Metrics**
 - **Week 1: 693 transactions 98.7% acceptance**
 - **Week 2: 3525 transactions 99.38% acceptance**

DMO Army & Air Force Initial Test Sites

- **Keesler AFB, MS (AC/RC)**
- **Wright Patterson AFB, OH (AC/RC)**
- **U.S. Air Force Academy, CO (Staff and Cadets)**
- **Fort Jackson, SC (AC/RC)**
- **Fort Stewart, GA (AC/RC)**
- **Fort McCoy, WI (RC Only)**

DMO Army & Air Force Testing/Deployment Schedule

• Prototype Deployment	Complete
• AC SAT	2/22/00
• RC SAT Sked	5/22/00
• AC Beta Sked	5/22/00
• RC Mini-Review Target	7/10/00
• RC Beta Target	7/17/00
• Europe Site Beta Target	7/00
• General Deployment Decision	8/16/00
• Deployment period	9/00 - 12/01

Navy Plans for DMO

Background

- **Long standing coordination with NSIPS PM**
- **Several meetings conducted**
- **DMO first provided Apr 99 to NSIPS**
 - Updates provided Sep 99 and Nov 99
 - DMO loaded on NSIPS test bed
- **NSIPS Release 0 provided Nov 99**
- **Joint attendance on conference calls and VTCs**

Navy Plans for DMO

Current Effort

- **Supplement to NSIPS for Disbursing Tasks**
 - Financial Management provided by DFRS
- **Internal databases only, No DB2 needed**
- **Work with NSIPS for Logistics**
- **Loaded on NSIPS workstation in pay office**
- **Utilize the same telecommunications**
 - DMO data routed directly to DJMS
- **Includes Inquiry, Reports, & Input modules**

Navy Plans for DMO

New NSIPS Proposal

- **NSIPS to replace current SDS, DMRS, and UMIDS/SDS Bridge**
 - Includes pay input for gains and losses
- **DMO will do all other pay related input**
 - Will need DFRS for Financial Management
- **Full DMO would require a database**
 - Will review alternatives with NSIPS
- **NSIPS/DFAS/DMO meeting scheduled**
 - PM 3/30 & AM 3/31 at DFAS-CL

Navy Plans for DMO

Post Meeting Results

- **Need Revisions:**
 - Test Plan
 - Communication/coordination efforts
 - Deployment support
 - Role of DMO/DFAS in Distribution & Training
- **Propose at least 4 Prototype Sites**
 - (2 Ships and 2 PSDs)

Navy Plans for DMO

Summary

- Existing plans on target
- Change is still a proposal
- Details following March meeting in Cleveland